

An Essay
on
The Progress of Surgery

Respectfully submitted to the
Faculty of the
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of
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and

Fifty Seven
by

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The Progress of Surgery

To trace
surgery to its origin, we would have
to go back and first present it in its ger-
minal state, as it existed during the for-
mation of primitive society, by a retro-
spective view of accidents as they occurred
in ancient times, such as the dislocations
and fractures resulting from falls and
blows; the incisions, lacerations, contu-
sions and punctures in the manufact-
ure and from the use of the various in-
struments employed in the different oc-
cupations; the wounds inflicted by ven-
omous reptiles, enraged animals and
wild beasts; and the treatment likewise

to which cases of these injuries were subjected.

Then notice its developement under the observation and experience of those individuals, who must necessarily have discovered modes of relief for their suffering fellow-beings; and its formation into a separate vocation from the habit of beneficent assistance of one another when an accident befall them.

And then notice its probable scientific birth, about two thousand two hundred years before Christ, at the city of Babylon, the birth-place of learning and the sciences.

But to leave out all such speculative uncertainty as this, and the surgical history of the ancient Egyptians to whom however are accredited the operations of blood-letting, paracentesis,

cauterizations and lithotomy); the fabulous sketches of ancient deities of medicine and unreliable characters of reputed medical practitioners; the accounts of Esculapius, who, is said to have gone out as surgeon on the Argonautic expedition; and those of his two sons Machaon and Podalirius, who, flourished about eleven hundred and seventy years before Christ in the same capacity in the Trojan war; and the condition of surgery while under the almost uncontrolled sway of the priests, monks and philosophers: I will endeavor to make a concise review of some of the principles and modes of treatment, of the most eminent practitioners and writers of ancient historical times; and some of the advantages and points of its

advancement in modern ages: commencing at the most distant tangible ancient authority, the works of the universally entitled 'Father of Medicine', Hippocrates, who flourished about four centuries before the christian era.

In glancing over the treatises attributed to him, we find that those subjects of the branch of medical science under consideration, on which he has particularly written, are, fractures dislocations, ulcers, fistulas, hemorrhoids, eye diseases, empyema, various kinds of wounds and a number of operations.

Depletion and cupping constituted an important part of his treatment in injuries from falls, and that horrible instrument of cruelty, the actual cautery for chronic affections.

In wounds it was his endeavor to heal if possible by agglutination of their edges, for which purpose, he brought them together, and after allowing them to bleed a short time before dressing, he applied to them wine in every case, except where the wound occurred over an articulation.

When a wound of the head had been inflicted, he took much pains to discover its depth and extent, and to diagnose whether or not it involved a fracture of the cranium, which he often confounded with the sutures. If a depressed portion of bone was found on the brain, he recommended performing the operation of trephining, with a small trepan, under the observance of the precautions, that in enlarging the wound no section was to be made on the

temples or near the temporal artery; to take the trepan out often and dip it in cold water, that too much heat might not be communicated to the bone, and not to cut all the way through the inner table for fear of injuring with the instrument or exposing to the air the dura mater, which according to a singular idea of his, produced a destruction of the membrane and as he thought, death from the pain thereby induced.

In empyema he made the opening for the escape of the collected matter in the pleura, similarly to the valvular one now performed.

But in reference to the discharge he says in one of his aphorisms - "drawing at one time all the pus contained in the chest, or water in the abdomen, by the operation of burning or cutting proves fatal."

Diseases of the eyes he recognized in their external appearance by the presence of different colored spots.

One an incurable affection was distinguished by a blue cast. Another by a sea-green cast, which was chronic in its nature, attacking successively both eyes, which he informs us might be checked by early purging the head and burning the veins, operations, with which we are wholly unacquainted.

Thirdly an intermediate colored spot between the two above mentioned, occurring mostly in children and recovering in process of time without treatment. But when he had no such external marks as these he recommended an incision to be made in the pinciput, and as he says lay it bare, wound the bone, and let out from it some water.

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Hæmorrhoids were well understood by him, and his mode of curing them was to destroy them, either, by burning off the varicose enlargements, when protruding through the anus, with a red hot iron, by portion with the fingers, or by severing them with the knife.

His general treatment of ulcers consisted in rest, and the preservation of a slight inflammation at the point of ulceration.

When they became indolent, he applied a large emollient cataplasm. Celsus, a later author, cut away their indurated edges and made a stimulating application, (generally of wine) to the surface of the abrasion. This practice is disapproved of by Galen a writer of the second century, ^{who} substituted bringing the edges of the ulcer in closer proximity, to produce a cicatrization sooner.

Modern ages have developed many improvements in their treatment, the most important and most efficient of which are those of Homoeopathy standing forth with its attenuated *Silicea*, *Hepar Sulphuris Calcar*, *Arsenicum*, *Carbo Vegetabilis* &c. welcoming the ulcerous victim to speedy recovery and spreading joy and gladness to many an ulcerated sufferer.

The injuries with which Hippocrates seems to have been more acquainted and in which he adopted his most skillful treatment, were fractures and dislocations.

For the former, after reducing the fragments, he very properly applied to the fractured limb, splints, bandages and to an inferior extremity strong extension upon the lower fragment by a weight attached to the foot;

in order that his so much dreaded deformity, shortening of the limb, might not occur.

Complicated and comminuted fractures with exposure of the bone through the lacerated muscle and skin, were considered generally fatal cases, which however, I think was owing in a great measure to the excessive dieting of his patients with fractures, keeping them upon water alone from seven to fourteen days, unless it happened to be a bilious habited case, to whom the addition of honey was allowed.

Luxations he reduced, and kept the joint at rest by bandages for some days, to prevent its redislocation.

Amputation, lithotomy, trephining and paracentesis are among the most important operations that Hippocrates performed.

Amputations were rarely attempted by him, or any of the ancient surgeons, on account of the danger from loss of blood which freely flowed during the operation from the want of an instrument to arrest it by arterial compression. "Cutting for the Stone" he forbade his medical pupils, and endeavored to establish a distinct profession, of surgery, by which more safety and less fear, would be ensured in operating.

Thus we see that surgery though as yet practised in connection with medicine, had at this early day reached quite an advanced scientific position, and under the influence and efforts of the zealous and undaunted Hippocrates, assumed somewhat the character of a distinct and separate calling from medicine.

In looking along the line of ancient surgical writings, the next of much importance given to the world, and those which aided in the elevating progress of this branch of science, were the works of Celsus: Who we are informed performed many operations, such as amputations for gangrenous limbs; lithotomy for urinary calculi; depression by the needle for cataract; extirpation of tumors; closing hare-lip; removal of polypi from the nose; laying open fistulas and abscesses; excision of enlarged indurated tonsils and elongated uvula; tapping in the umbilicus for ascites; removing bronchocele &c.

He stopped hemorrhage either by pressure with a sponge wetted with vinegar, by the actual cautery or by a ligature.

125.
The unintelligible treatment of ocular affections by Hippocrates, was by this later author superseded with eye-washes, low diet, rest in a dark room, purgation and venesection. He made a better division of these diseases, and gave a clearer explanation of their nature.

The external applications of arsenical preparations to carcinomatous tumors was known to and adopted by Celsus, who, employed the auripigmentum, or yellow sulphurized arsenic.

From this ancient example, doubtless, has been transmitted the injurious and almost universal use of these palliative preparations for cancerous growths, by allopaths, and quacks of modern times and especially of the present day.

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We find this writer well acquainted with hernia. His divisions correspond very nearly with those given at the present day, such for instance as scrotal, inguinal, umbilical, after the regions in which it occurred and intestinal or omental, according as the intestine or omentum protruded through the rupture.

His treatment of it consisted, in young subjects, in reducing the intestine or omentum, then applying a compress over the part and a roller over this, around the body.

But if this failed to produce the desired adhesion in the abdominal parietes, other means were generally employed. In some cases he endeavored to prevent the further protrusion of the viscus by the removal of some of the loose skin, thus producing a cicatrix and a thickening of the parts.

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His cases of strangulated hernia almost always terminated fatally; because of his ignorance of human anatomy and a proper operation by which the intestine might be liberated and reduced.

Much improvement on this point, has been made by the moderns. Writers on surgery now give a description of the structures covering it and the steps to be observed in dividing them.

About the middle of the second century, Galenus, another great physician, rose to act his part upon the stage of surgical advancement, and by his zealous pursuit of medical knowledge and anatomical investigations, added much valuable information to the then existing stock of surgical attainment.

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His disregard for stimulants, which had been almost universally used anterior to his day, marked an important phase in the management of injured and diseased patients.

He appears to have been well versed in the treatment of the various kinds of ulcers, and acquainted with the character of aneurism.

His influence was not however felt so much directly upon surgery by operations and new improvements; as it was indirectly through his intimate acquaintance with anatomy, and his illustration of the principles of Hippocrates, which he considered had been improperly understood or wrongly represented by those who attempted their explanation.

At the centre of medical science, Alexandria, about the end of the fifth and beginning of the sixth centuries, we notice another distinguished author on this subject Aetius; who seems to have had a partiality for escharotic treatment, using the actual and potential cauteries and caustics to a great extent in his practice.

His treatment of eye diseases was more complete than that of his predecessors.

For anasarca he drew off the dropsical effusion by means of scarifications in the extremities.

But the more important parts of surgery such as dislocations and fractures do not seem to have been well understood by him.

About the middle of the seventh century, Paulus of Aegina, another surgeon from the Alexandrian school of medicine, flourished as the most eminent surgeon and author of his day, principally enlightening enquiring minds upon the treatment of hernia; on the diagnosis of aneurismal tumors, which he removed by ligating the artery each side of the enlargement and then severing the vessel, within the ligatures, near each.

He describes fracture of the patella, (heretofore unmentioned by authors), the operation of bronchotomy and the lateral method of lithotomy.

He gave a more accurate description of injuries and a lucid illustration of surgical principles and plans of treatment, than had heretofore been promulgated.

He, as it were, concentrated the then existing rays of surgical truth, to one luminous point and thus produced the last brightest glimmer of this lamp of science before its immersion into the darkened shades of the ignorance, superstition and licentiousness which involved the world during the dark ages, through the influence of the blighting religious tenets of the conquering power of Mahomedanism, which soon after this period, rapidly spread over the most civilized parts of Asia and Africa carrying ^{with it} its blindness and baneful contempt for all knowledge (except that taught from the Koran) and destroying in its mad career much of the accumulated literature of centuries.

As these combined influences exerted their power over surgical learning, it fell back almost entirely into the hands of monks and priests.

Although surgery was in a great measure separated into a distinct branch of art; yet it became contaminated by its connection with the employment of the barbers and bath-keepers, in some parts of Europe, who, took it up with their own trade and practised it for a lucrative object.

The Arabian appears to have been the only nation, who kept it, from falling into total disgrace or from sinking into neglect, during this period.

Although under the sway of the priests and monks, it was kept from

advancement by the teachings they inculcated among the superstitious people.

Such for instance, as, that all suffering was punishment for committed crimes, and that the priests and those authorized by them could only administer relief;

Yet by the attention given it at that day, it ranked equal if not superior to any other branch of ancient learning.

By the beginning of the ninth century the tide of ignorance, licentiousness and superstition which set in about four hundred years before, had extended its inundation over almost every rank of people from the lowest menial up to the highest ecclesiastical, philosophical and royal orders of society.

Emperors and kings perceiving the devastation and destruction that literature was undergoing, put forth strenuous efforts counter to this insidious incursion, by issuing proclamations and edicts against it.

Ecclesiastical organizations held councils and likewise promulgated decrees against the corruption that had crept in upon their sacerdotal agents.

But notwithstanding these efforts the lamp of scientific research still grew gradually fainter and fainter, until the once civilized portion of the world glided backwards almost into barbarism.

Surgery though somewhat affected by this overwhelming flood of literary ruin;

yet preserved its identity, making little or no progress, however, until the determined efforts of a few scientific men resulted in the re-establishment of universities of learning.

Hitherto anatomy had been pursued under the disadvantage of dissections upon the lower animals; but as science emerges from the thralldom of this barbarous age and the spirit of investigation increases, human bodies are obtained to dissect.

At the beginning of the sixteenth century anatomy received many acquisitions from James Berengarius de Carpi, a celebrated lecturer on this branch at Padua; who corrected many erroneous ideas of the structure of the body; And, as is said, amassed a considerable fortune by using mercurial frictions for syphilis.

Many improvements were also made in anatomy; by his successor Andrew Vesalius, who gave a valuable set of anatomical plates to the world; by his follower Gabriel Fallopius, an expedition 'operator', who made several discoveries, wrote several works upon, and corrected several errors in, anatomy; and, towards the close of that century, by Bartholomew Eustachius, who discovered the renal capsules, eustachian tube, thoracic duct &c.

This anatomical research under these celebrated men aided surgery much, in its enlightening progress.

An excellent french surgeon Ambrose Paré acquired much knowledge from these accumulated anatomical improvements

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and applied it to the practice of his profession, by which he became a judicious and successful operator. His treatment for injuries was milder than the irritant and cauterizing applications of his predecessors.

The various improvements thus made imparted to this branch of science and art, an impetus by which it soon left the disreputable character it received during a few centuries of the latter period of the middle ages, far into the forgotten past, and established its principles upon a firmer basis: clearing at the same time the sky of this science from the hazy gloom of this illiterate period, for the appearance of the brilliant luminaries that have from the time of Pare, shined and that at the present day illuminate the wide expanded firmament of surgical education.

But now to notice the advancement and some of the advantages of surgery as an art, as it receives in its various departments other developments calculated to alleviate the sufferings and save the lives of our fellow-beings.

To prevent hemorrhagic exhaustion, which constituted the greatest danger the ancients encountered in amputations, the tourniquet was invented by a french surgeon, Morel, about the middle of the seventeenth century; a few years after the illustrious W^m Harvey discovered the circulation of the blood.

Within the last quarter of a century the discovery of the anæsthetic agency of sulphuric Ether and chloroform and their usefulness (especially that of the former, when administered to patients

undergoing an operation, to prevent sensation, which they were found to do without producing in the majority of cases any visible evil consequences; have marked an important epoch in the history of surgical advancement.

The application of cold which has been, in one of our Homeopathic journals of the present day, highly commended as another valuable anesthetic agent, may at some future period take the place of the sometimes treacherous agents now in use.

Improvements have likewise been made in the instruments employed in the various surgical operations; as for instance in their shape, lightness and adaptedness to parts.

Many modifications in manipulating have also been ^{made} in modern times; such for example as the removal of extraneous substances from the meatus auditorius externus, by means of injecting some water forcibly into the opening with a fine mouthed syringe, instead of their extraction with the old fashioned probes, hooks, forceps, scoops, bent wires &c. by which the parts were often dreadfully lacerated or the delicate membrana tympani torn up.

As another instance I will mention the reduction of luxations at the ilio-femoral articulation solely by manual operation; which consists in first flexing the extremity obliquely across the abdomen, when

The patient is lying on his back, then, after bringing the limb in a direct line with the body, by its forcible extension, the head of the femur will be reduced into the acetabulum through the opening made in the capsular ligament by the displacement of the bone.

The discovery of this mode of reducing dislocations of the hip joint I regard as one of the most important and valuable modern improvements of this art. Because it possesses the advantages of being easily, safely and speedily performed by one person, without wasting time in the application and use of the extension pulleys and counter extension bands, without so much danger of rupturing some vessel or tissue, and with the security by which the head of the femoral bone is returned through the loop of exit in the ligament.

In the extirpation of tumors, modern enlightenment teaches us, to save sufficient integument to close the wound and thus produce a speedy cure, instead of removing all the superficial tissue, carrying it along with the morbid enlargement, leaving thus a large eschar after cicatrization.

While modern improvements and discoveries have vastly reduced the danger, delay, laboriousness and suffering formerly attendant upon surgical operations, the prevention of distortions and deformities, and the beautifying of the face has not been neglected.

Considerable attention has been paid to this subject giving rise to that branch which is called plastic surgery.

and to the operations of division of retracted, muscles and fascia; whereby new noses are constructed, new eye-lids formed and shortened ones lengthened, loss of any part of the buccal structure avoided, deformities from contracted cicatrizations have been almost entirely prevented, torticollis has been removed by a subcutaneous division of the contracted sterno-cleido mastoid muscle, club-feet straightened, strabismus obliterated and hare-lip closed.

Having thus touched upon a few points concerning the progress of surgery, I will now briefly notice the influence of a system of practice of *Paracelsus*, *Hay!* *paramount* importance in comparison with any other, in the treatment of surgical cases,

Homoeopathy, basing its views
 upon physiological and philosophical
 principles, abolishes such injurious
 means as wholesale depletions, leeching,
 scarification and cupping; the counter
irritants, such as blisters, the potential
 cauteries or caustic applications, such as
 Kali purum; the more powerful, cruel
 and barbarous means of applying a red
 hot iron to the surface (or the actual cauterizing),
 the seaton, the issue and the moxa;
 and likewise proscribes the external
 application of solutions of such poisonous
 drugs as Arsenicum, Mercurius, Iodine
 &c. to denuded surfaces; and also the use
 of purgatives, astringents, alteratives &c. &c.
 substituting in their stead prescriptions
 of medicinal agents homoeopathically

indicated in accordance with their
 proofs and the teachings of the great
 unchangeable law of cure "*Similia
 Similibus Curantur*", by which home-
 oopathic surgery checks in their progress
 the evil effects of many injuries and
 diseases which come properly under its claim.
 Such for instance, as the swollen painful
 effect of a contusion, which is readily overcome by
 the "antivulnerary specific" *Arnica*; Likewise the
 mortification of a member or ^{any} portion of the body, which is
 prevented by a proper administration of the patho-
 genetic remedy from such as *Arsenicum*, *Carbo Vegi-*
tabilis, *Secale Cornutum*, *Crotalus*, *Leachesis* &c.

In *ileus* or *interceptio intestini*, the
 use of *Nux Vomica*, *plumbum*, *Mercurius* or *Ar-*
senicum which are mostly efficient, shows another
 another point of homeopathic superiority.

In carcinomatous affections our remedies display a preeminent power over allopathic means; not only as palliative agents, but I believe in some cases they possess curative properties.

In the treatment of abscesses and ulcers, Silicea, ~~He~~par Sulphuris Calcarea, Sulphur, Mercurius & Arsenicum (given, as symptoms homoeopathically indicate) are vastly superior to external medicinal applications.

The venereal affections are more speedily cured without the evil effects of Mercury resulting, under our system.

For high inflammations a few doses of *Conium maculatum* and perhaps in alternation with *Belladonna*, will produce a more effectual and safer reduction.

than the venesections of the old school practitioners.

As we thus see some of the progress which has been made by homoeopathy, (and as much yet remains to be discovered,) it is not improbable from its past improvements, but that the now most intractable diseases may, under its progressive influence, be conquered, and the dangerous operations of the present day, be so modified and improved upon, at some future time, as to be performed with almost perfect safety to the patient.

I have thus taken a glance at different periods in the progress of surgical science and seen its course of improvement as it advanced like the moving waters of a mighty river: At its origin small and almost unnoticed, except by reason of some momentary impediment, and as it proceeds onward, increases in its bulk and strength of current, until it descends to mingle with the vast expanse of powerful waters: The source from whence it originated, is unseen among the hedges of mythological oblivion, its first visible development being under the opportunity afforded by war, and through this addition, greater velocity was given

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it and by the acquisition of the experience and observation of ancient philosophers and physicians, it received an impetus that hastened it gradually on to an important separate profession.

Impeded only here and there by its connection with ancient priests, monks, barbers and bath-keepers, and the reign of superstition and ignorance of the middle ages; it steadily widened its borders until it is now merged in the great treasury of knowledge, as one of the most valuable branches of medical learning, subverting the hypothetical doctrines and reasonings of antiquated writers by its modern energy and enlightenment.